

RECONFIGURABLE MUX/DEMUX TO ENABLE WAVELENGTH INDEPENDENT TRANSPONDER SLOTS THAT CAN BE WIRED WITH FIXED OPTICAL CONNECTIONS AND SEND/RECEIVE ANY  $\lambda$ 

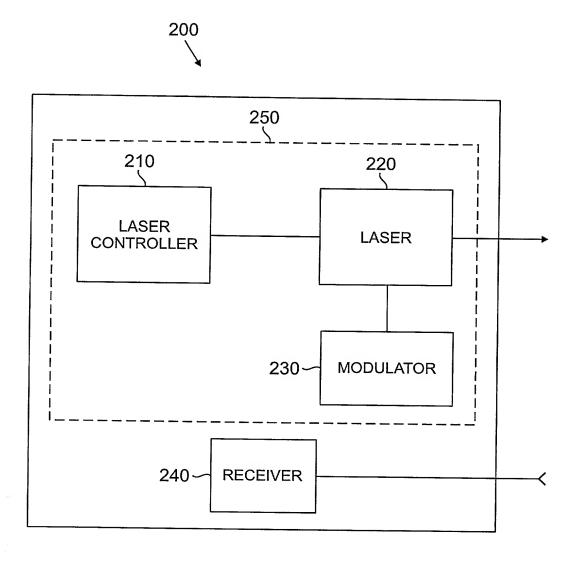
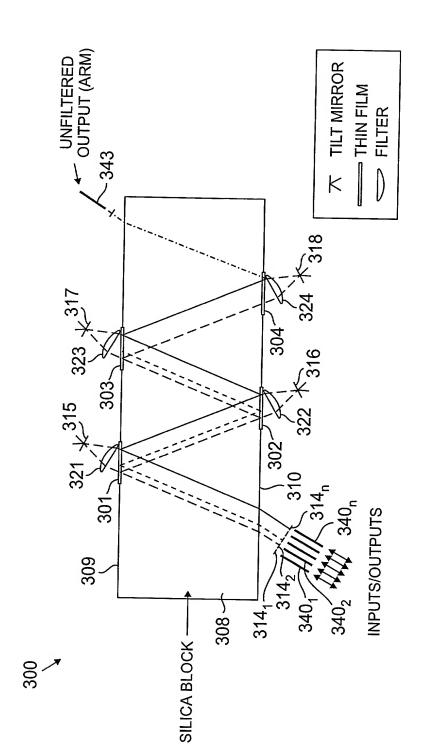
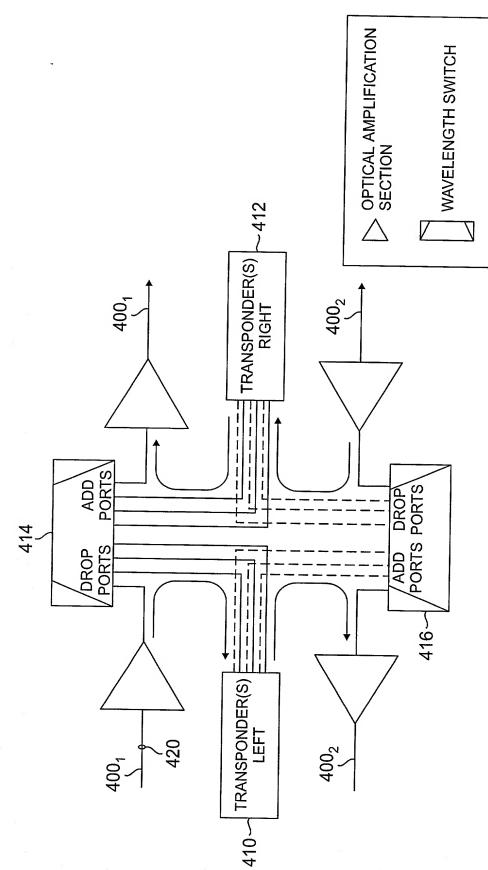


FIG. 2



BIDIRECTIONAL INPUTS/OUTPUTS WITH INDEPENDENT WAVELENGTH DISTRIBUTION

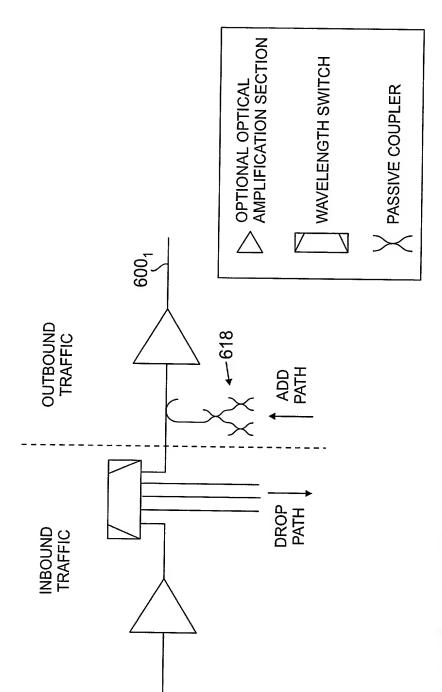
FIG. 3



MID-AMPLIFIER SWITCH TO ADD/DROP CHANNELS TO SEPARATE SERVICE PATHS ON A UNIDIRECTIONAL FIBER PAIR SYSTEM

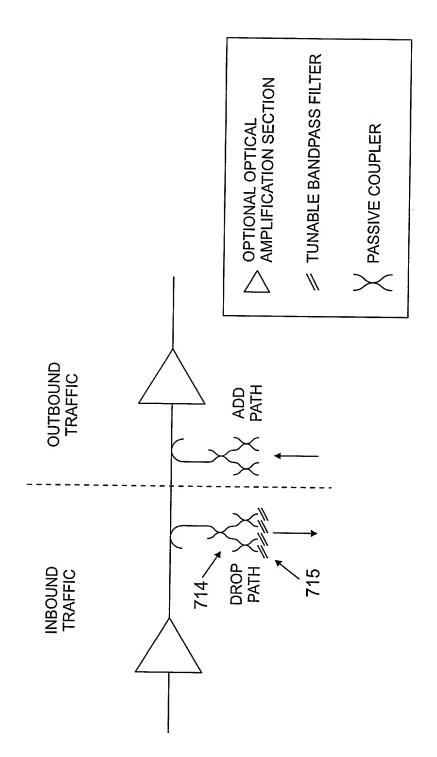
FIG. 4

SWITCHING SYSTEM TO ADD/DROP SIGNALS WITH INDEPENDENT NODE PATHS (LINK AND NODE DISJOINT)



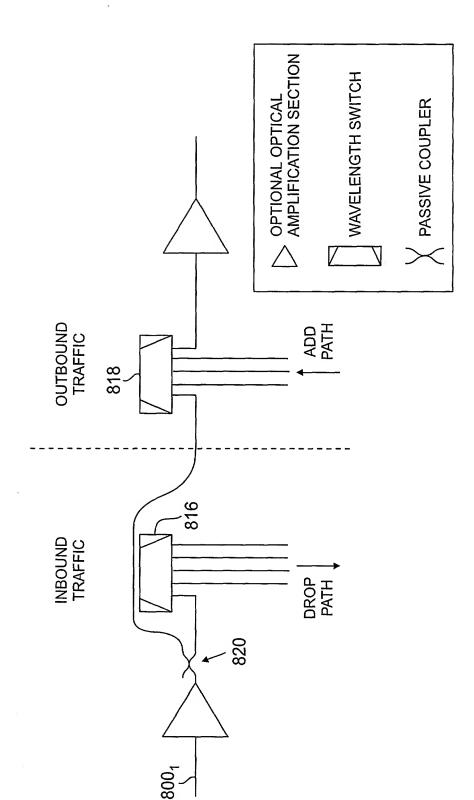
MID-AMPLIFIER SWITCH TO ADD/DROP WITH DISJOINT NODE PATHS USING A LOW COST PASSIVE COUPLER TO ADD SIGNALS

FIG. 6



INEXPENSIVE ADD/DROP WITH LINK NODE DISJOINT PATHS WITHOUT WAVELENGTH REUSE DUE TO NO WAVELENGTH BLOCKING (ENABLES DROP AND CONTINUE OF SIGNAL)

## **FIG. 7**



MID-AMPLIFIER SWITCHING SYSTEM WITH PER WAVELENGTH ADD/DROP, DROP AND CONTINUE SIGNALS WITH INDEPENDENT EAST/WEST NODE PATHS (WITH OPTIONAL WAVELENGTH BLOCKING)

FIG. 8